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BEFORE THE ARIZONA CORPORATION COMMISSION  
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ANDY TOBIN  
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Arizona Corporation Commission

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FEB 3 2017

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IN THE MATTER OF THE APPLICATION  
OF ARIZONA PUBLIC SERVICE  
COMPANY FOR A HEARING TO  
DETERMINE THE FAIR VALUE OF THE  
UTILITY PROPERTY OF THE COMPANY  
FOR RATEMAKING PURPOSES, TO FIX  
A JUST AND REASONABLE RATE OF  
RETURN THEREON, AND TO APPROVE  
RATE SCHEDULES DESIGNED TO  
DEVELOP SUCH RETURN.

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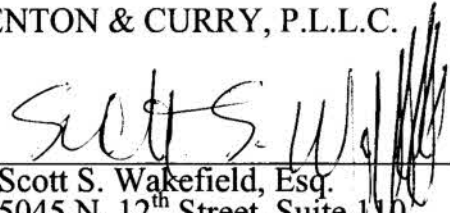
**WAL-MART STORES, INC.'S AND  
SAM'S WEST, INC.'S NOTICE OF  
FILING DIRECT TESTIMONY OF  
GREGORY W. TILLMAN AND  
CHRIS HENDRIX  
(RATE DESIGN)**

Wal-Mart Stores, Inc. and Sam's West, Inc. (collectively, "Wal-Mart"), hereby  
provide notice of the filing of Gregory W. Tillman and Chris Hendrix's direct testimony  
(rate design).

Dated this 3rd day of February, 2017.

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**BEFORE THE ARIZONA CORPORATION COMMISSION**

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BOB BURNS  
ANDY TOBIN  
BOYD DUNN**

**IN THE MATTER OF THE APPLICATION  
OF ARIZONA PUBLIC SERVICE  
COMPANY FOR A HEARING TO  
DETERMINE THE FAIR VALUE OF THE  
UTILITY PROPERTY OF THE COMPANY  
FOR RATEMAKING PURPOSES, TO FIX  
A JUST AND REASONABLE RATE OF  
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SUCH RETURN.**

**DOCKET NO. E-01345A-16-0036**

**DIRECT TESTIMONY (RATE DESIGN) AND EXHIBITS OF**

**GREGORY W. TILLMAN**

**ON BEHALF OF**

**WAL-MART STORES, INC. AND SAM'S WEST, INC.**

**February 3, 2016**

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**Exhibits**

Exhibit GWT-RD-1 –	Revenue Allocation and Relative Rates of Return
Exhibit GWT-RD-2 –	Calculation of Subsidy Level by Class and GS Sub-Class
Exhibit GWT-RD-3 –	Example of Revenue Allocation with a Reduced Revenue Increase
Exhibit GWT-RD-4 –	Calculation of the Disparity Between Cost and Revenue in Rate Components

**Introduction**

**Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND OCCUPATION.**

A. My name is Gregory W. Tillman. My business address is 2001 SE 10th St., Bentonville, AR 72716-5530. I am employed by Wal-Mart Stores, Inc. as Senior Manager, Energy Regulatory Analysis.

**Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS DOCKET?**

A. I am testifying on behalf of Wal-Mart Stores, Inc. and Sam's West, Inc. (collectively "Walmart").

**Q. ARE YOU THE SAME GREGORY W. TILLMAN WHO FILED TESTIMONY ON REVENUE REQUIREMENT IN THIS DOCKET?**

A. Yes.

**Q. ARE YOU SPONSORING ANY EXHIBITS WITH YOUR TESTIMONY?**

A. Yes. I am sponsoring the exhibits listed in the Table of Contents.

**Purpose of Testimony**

**Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THE RATE DESIGN PHASE OF THIS PROCEEDING?**

A. The purpose of my testimony is to address the Company's proposed cost of service study ("COSS"), revenue allocation, and rate design. Specifically, I respond to the rate design proposals that affect the E-32 L and E-32 M rate classes supported primarily by APS witnesses Leland R. Snook and Charles A. Miessner.

**Summary of Recommendations**

**Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS TO THE COMMISSION.**

**A.** My recommendations to the Commission are as follows:

- 1) Walmart does not oppose the Company's proposed COSS.
- 2) At the Company's proposed revenue requirement, the Commission should accept the Company's proposed revenue allocation. Further, the Commission should order existing subsidies be eliminated aggressively in future proceedings.
- 3) The Commission should order that any reduction in the revenue requirement be applied with the dual purpose of reducing the inter-class subsidies and mitigating the rate impact to all classes as proposed within my testimony.
- 4) If the AG-1 rate is not renewed, the Commission should order the Company to modify its proposed rate design to more closely reflect the underlying costs as proposed within my testimony.

The fact that an issue is not addressed herein or in related filings should not be construed as an endorsement of any filed position.

**Cost of Service**

**Q. WHAT IS WALMART'S POSITION ON SETTING RATES BASED ON THE COST OF SERVICE?**

A. Walmart advocates that rates be set by regulatory agencies based on the utility's cost of service for each rate class. A regulatory policy that supports the fair-cost-apportionment objective of rate-making ensures that rates reflect cost causation, send proper price signals and minimize price distortions.

**Q. HOW IS COST CAUSATION DETERMINED IN THE RATE-MAKING PROCESS?**

A. In cost of service regulation, the Commission must determine the revenue requirement that the Company is authorized to recover based on prudent costs including a reasonable return on the investment required to provide service. The utility's Cost of Service Study ("COSS") is an analytic tool commonly used to determine the total cost and equitable assignment of cost responsibility to customers. This is accomplished by identifying, functionalizing, classifying, and allocating the allowable costs to customer classes in the manner that customers cause those costs to be incurred.

**Q. DOES WALMART OPPOSE THE COMPANY'S PROPOSED COST OF SERVICE STUDY?**

A. Walmart does not oppose the Company's proposed COSS. However, to the extent that alternative cost of service models or modifications to the Company's model are proposed by other parties, Walmart reserves the right to address any such changes in surrebuttal testimony.

Rate Design

Q. WHAT IS THE ROLE OF COST OF SERVICE IN SETTING THE UTILITY'S RATES?

A. As explained by Company witness Snook, "It is foundational in developing appropriate pricing structures that align the rates customers pay for the services received with the customers who are driving the costs." See Snook Direct Testimony, page 19, lines 14-16. This alignment is achieved through revenue allocation and rate design and assists the Commission in establishing proper price signals.

Q. WHAT ARE PROPER PRICE SIGNALS AND WHAT IS THE FUNCTION OF UTILITY PRICING?

A. Proper price signals refer to the existence of a price system that satisfies the intended role of public utility pricing. Dr. Bonbright describes four primary functions of public utility pricing. See James C. Bonbright, Principles of Public Utility Rates, First Edition, 1961, Chapter 4.

- *The Production-Motivation or Capital-Attraction Function.* Public utilities are allowed to charge a price that induces and enables them to provide electric service while earning a reasonable return for investors. This function tends to become the primary basis for decisions on total return and authorized revenue for the utility.
- *The Efficiency Incentive Function.* The introduction of pressure on the utility to continue to reduce production costs in order to maximize profits. In regulated utilities, this function is a result of setting revenue that

1 recovers costs to provide service and includes a fair rate of return on  
2 utility companies' investment.

- 3 • ***The Demand-Control or Consumer-Rationing Function.*** Often cited as  
4 the primary rate-making concern of economists, this function is focused  
5 on presenting prices that encourage or incents customers to ration their  
6 own consumption, preventing wasteful consumption and pursuing greater  
7 system efficiency.
- 8 • ***The Compensatory Income-Transfer Function.*** The price level that most  
9 accurately reflects the proper level of wealth transfer (that is, revenue  
10 requirement) from consumers to utility in compensation for the costs  
11 incurred to provide service. Included within this function of pricing is an  
12 ability-to-pay standard which simply states that prices may be adjusted to  
13 modify the re-distribution of wealth between consumers and supplier,  
14 between customer classes (i.e. inter-class subsidies), or between customers  
15 within a class (i.e. intra-class subsidies).

16 It is important to note that the ability-to-pay standard, when  
17 applied beyond a reasonable level of severity, may result in the breakdown  
18 of the other functions of utility pricing. An example of that breakdown is  
19 the *wasteful* use of energy during the peak period resulting from a  
20 reduction of on-peak prices through subsidies intended to soften the  
21 impact of cooling costs on customers. The increased peak period demand  
22 resulting from the breakdown of the demand control function may lead to  
23 new production plant needs, resulting in increased total cost of service.



***Revenue Allocation***

**Q. WHAT IS REVENUE ALLOCATION?**

A. Revenue allocation, sometimes referred to as rate spread, is the assignment of the revenue responsibility to each customer class and sub-class. A revenue allocation that assigns revenue to each class at the cost of service is free of inter-class subsidies.

**Q. ARE THERE INSTANCES IN WHICH THE COMMISSION WOULD ASSIGN DIFFERENT REVENUE TO INDIVIDUAL CLASSES THAN IS CALLED FOR WITHIN THE COSS, RESULTING IN INTER-CLASS SUBSIDIES?**

A. Yes. At times, the regulator may find it necessary to approve a level of revenue requirement to a particular class which differs from the cost responsibility amount determined in the COSS. Often this is driven by the need to ensure that customers are not seriously adversely impacted by major changes to the level of rates. Other reasons can include perceived differences in COSS results and reality, relative risks assigned to classes, social goals associated with the role of the prices in a particular jurisdiction, and response to the state of the economy within or external to the regulatory jurisdiction. The Commission may exercise its discretion based on one or more of these concerns to adjust revenue allocation to support policy or advance the public interest. However, these adjustments often lead to rates that are not cost-based and, as a result, not just, reasonable, and equitable.

**Q. WHAT IS THE ULTIMATE GOAL WHEN ALLOCATING REVENUE?**

A. To the extent possible, inter-class subsidies should be eliminated. If this is not possible in the immediate case, the Commission should establish a clear path to the

1 elimination or reduction in any undesired subsidies, continually moving each class  
2 closer to their respective cost of service until these undesired subsidies are eliminated  
3 and price signals are improved.

4 **Q. HAS THE COMMISSION NOTED THE IMPORTANCE OF ADDRESSING**  
5 **EXCESSIVE SUBSIDIES AND SENDING PROPER PRICE SIGNALS?**

6 **A.** Yes. In its August, 2016 decision from the UNSE rate case, the Commission stated:

7 "...while some subsidization can be in the public interest, the subsidies for UNSE  
8 have become excessive, and it is time that the Commission take action to move to  
9 a more equitable allocation of revenue. To provide electric rates that more closely  
10 reflect the cost of service would assist these large electricity users, who are also  
11 employers, to be more competitive." *See* Decision No. 75697 at 26.

12 Additionally, in that same decision, the Commission recognized that:

13 "Sending correct price signals to customers, avoiding misaligned subsidies and  
14 incentivizing efficiencies and innovation are critical if peak system load is to be  
15 reduced and efficient use of system resources is to be achieved – goals which  
16 benefit all ratepayers." *See* *Id.* at 117.

17 **Q. WHAT METRIC DO YOU USE TO MEASURE THE EXTENT OF INTER-**  
18 **CLASS SUBSIDIES?**

19 **A.** I employ the relative rate of return ("RROR") metric, which is a measure of the  
20 relationship of the rate of return for an individual rate class to the total system rate of  
21 return. A RROR greater than 100 percent means that the rate class is paying rates in  
22 excess of the costs incurred to serve that class, and a RROR less than 100 percent  
23 means that the rate class is paying rates less than the costs incurred to serve that class.  
24 As such, when rates are set such that each class does not have a RROR equal to 100  
25 percent there are inter-class subsidies, as those rate classes with a RROR greater than

100 percent shoulder some of the revenue responsibility burden for the classes with a RROR less than 100 percent.

**Q. WHAT IS THE COMPANY'S PROPOSED REVENUE ALLOCATION AND WHAT RESULTING RROR FOR EACH CLASS AND GS SUB-CLASS?**

**A.** These are shown in Table 1. *See* Exhibit GWT-RD-1.

**Table 1: Proposed Revenue Allocation and RROR for Classes and GS Sub-Classes**

CLASS/SUB-CLASS	INCREASE (000's)	TOTAL REVENUE (000's)	RATE OF RETURN	RROR
TOTAL RETAIL	\$ 165,849	\$ 3,322,304	8.13%	
RESIDENTIAL	\$ 118,289	\$ 1,773,474	4.57%	56%
GENERAL SERVICE	\$ 44,208	\$ 1,482,542	14.74%	181%
E-221 (Water Pumping)	\$ 1,649	\$ 33,631	7.35%	90%
STREET LIGHTING	\$ 1,149	\$ 23,212	7.22%	89%
DUSK TO DAWN	\$ 554	\$ 9,445	10.09%	124%
	\$ -	\$ -		
	\$ -	\$ -		
TOTAL GENERAL SVC	\$ 44,208	\$ 1,482,542	14.74%	181%
E-20 (Church Rate)	\$ 368	\$ 4,898	-5.03%	-62%
E-32 TOU (0-100 kW)	\$ 26	\$ 4,526	29.29%	360%
E-32 TOU (101-400 kW)	\$ 309	\$ 7,566	22.40%	276%
E-32 TOU (401+ kW)	\$ 1,190	\$ 22,833	18.40%	226%
School TOU	\$ 686	\$ 13,090	6.32%	78%
E-30, E-32 (0-100 kW)	\$ 175	\$ 555,548	20.21%	249%
E-32 (101-400 kW)	\$ 12,351	\$ 344,699	16.87%	208%
E-32 (401+ kW)	\$ 16,633	\$ 304,291	11.57%	142%
E-34	\$ 3,302	\$ 66,329	4.56%	56%
E-35	\$ 9,167	\$ 158,763	1.45%	18%

**Q. DOES THE PROPOSED REVENUE ALLOCATION MOVE EACH MAJOR CLASS CLOSER TO ITS COST OF SERVICE?**

**A.** Yes. The change in RROR for each class and sub-class is shown in Chart 1.

Chart 1: Relative Rates of Return Movement from Present to Proposed Rates



For the residential and GS classes, the movement to cost is minimal and does not substantially address existing subsidies. *See Id.*

**Q. DOES THE COMPANY'S PROPOSED ALLOCATION RESULT IN EXCESSIVE INTER-CLASS SUBSIDIES?**

**A.** In my opinion, the resulting subsidies are excessive. Based on the proposed cost of service and revenue allocation, the subsidy to the residential class is \$152.8 million, a discount of about 8 percent relative to cost. The primary burden of this subsidy falls on the General Service ("GS") class and totals \$153.3 million, 12 percent above its cost. Further examination of how these subsidies are spread to each GS sub-class reveals subsidy burdens as high as 38% above cost. *See Exhibit GWT-RD-2.*

1       **Q.     WOULD IT BE REASONABLE FOR THE COMMISSION TO SET THE**  
2       **REVENUE REQUIREMENT FOR EACH CLASS AND SUB-CLASS AT**  
3       **COST OF SERVICE AND ELIMINATE THESE SUBSIDIES?**

4       A.    Due to the extent of the increase that would be required to bring the residential class  
5       to its cost of service, it does not seem reasonable for the Commission to bring rates to  
6       parity at this time. The Commission should, while ensuring that no serious adversity  
7       is introduced to the residential customers, pursue aggressive mitigation of these  
8       subsidies in the future.

9       **Q.     AT THE COMPANY'S PROPOSED REVENUE REQUIREMENT, WHAT IS**  
10       **WALMART'S RECOMMENDATION TO THE COMMISSION ON**  
11       **REVENUE ALLOCATION?**

12       A.    At the Company's proposed revenue requirement, the Commission should accept the  
13       Company's proposed revenue allocation. Further, the Commission should order  
14       existing subsidies be eliminated aggressively in future proceedings.

15       **Q.     DID YOU TESTIFY TO THE OVERALL RATE OF RETURN BEING**  
16       **PROPOSED BY THE COMPANY IN YOUR NON-RATE DESIGN**  
17       **TESTIMONY?**

18       A.    Yes. My testimony was that the Company's proposed ROE was contrary to recent  
19       trends and averages in ROEs awarded nationally. At the average ROE awarded by  
20       Commissions nationwide in 2016 of 9.7%, the Company's revenue requirement  
21       would be reduced by \$49.9 million. *See Tillman Direct (Non-Rate Design), page 13,*  
22       *lines 6 – 8.*

1       **Q.    IF THE COMMISSION ORDERED A RATE OF RETURN LOWER THAN**  
2       **THAT PROPOSED BY THE COMPANY, WHAT IS YOUR**  
3       **RECOMMENDATION TO THE COMMISSION REGARDING REVENUE**  
4       **ALLOCATION?**

5       **A.**    The Commission should order that any reduction in the revenue requirement be  
6       applied with the dual purpose of reducing the inter-class subsidies and mitigating the  
7       rate impact to all classes.

8               Specifically, the Commission should, beginning with the Company's proposed  
9       allocation, apply 75 percent of the reduction in revenue requirement to reduce the  
10      burden to subsidy paying sub-classes on an equal percentage basis. The remaining 25  
11      percent of the reduction should be used to proportionately reduce the rate increase to  
12      all classes and their respective sub-classes.

13      **Q.    HAVE YOU PREPARED AN EXAMPLE OF YOUR RECOMMENDED**  
14      **TREATMENT OF A REDUCTION TO THE PROPOSED REVENUE**  
15      **REQUIREMENT?**

16      **A.**    Yes. Assuming that the Commission orders a revenue requirement \$50 million less  
17      than that proposed by the Company, I recommend that \$37.5 million of the decreased  
18      requirement is applied to reduce the subsidies paid by the subsidizing classes. The  
19      remaining \$12.5 million should be used to reduce the increase proportionately to all  
20      classes and their respective and sub-classes. *See Exhibit GWT-RD-3.*

***E-32 Rate Design***

**Q. UNDER WHICH RATES DOES WALMART PRIMARILY TAKE SERVICE FROM THE COMPANY?**

A. Walmart currently takes service on E-32 L and E-32 M Rates. Of the 73 sites served under these rates, 53 participate in the Company's AG-1 rate and take service from an alternative supplier under that program.

**Q. WHAT IS THE COMPANY'S PROPOSAL REGARDING THE AG-1 RATE?**

A. APS has proposed to discontinue the AG-1 rate.

**Q. DOES WALMART SUPPORT THE CONTINUATION OF THE AG-1 PROGRAM?**

A. Yes, Walmart supports the continuation of the AG-1 program. Walmart witness Hendrix presents Walmart's recommendations for the AG-1 program in his direct testimony.

**Q. IF THE COMMISSION CHOOSES TO CONTINUE THE AG-1 RATE, WHAT IS WALMART'S RECOMMENDATION FOR THE E-32 L AND E-32 M RATE DESIGN?**

A. If the Commission chooses to continue the AG-1 rate, the revenue requirement increase for AG-1 should be determined and applied to the existing rate structures ensuring adequate recovery of cost of service to these customers.

1     **Q.    WHAT CHANGES HAS APS PROPOSED TO ITS E-32 L AND E-32 M**  
2     **RATES UNDER THE ASSUMPTION THAT THE AG-1 PROGRAM WILL**  
3     **NOT CONTINUE?**

4     A.   In addition to updated prices, APS has proposed a structural change to the E-32 L rate  
5     to include an Aggregation Rate Discount. *See* Miessner Direct, page 52, line 20. No  
6     structural changes have been proposed to the E-32 M rate.

7     **Q.    WHAT IS THE AGGREGATION RATE DISCOUNT AND WHY DID APS**  
8     **PROPOSE TO INCLUDE IT IN THE E-32 L RATE?**

9     A.   The aggregation rate discount introduces a \$0.0024 per kWh discount to the energy  
10    prices for multi-site customers with a combined load exceeding 5 MW. *See Id.*, page  
11    53, lines 10, 21. According to Company witness, Miessner, the aggregation discount  
12    recognizes customers that in aggregate would have access to extra-large customer  
13    class rates for their generation service requirements. *See Id.*, Page 53, lines 2 – 8.

14    **Q.    WOULD THE AGGREGATION DISCOUNT APPLY TO WALMART**  
15    **ACCOUNTS TAKING SERVICE ON THE E-32 L RATE?**

16    A.   Yes. If the program is approved by the Commission in its current form, Walmart  
17    would be eligible for the aggregation rate discount on its unbundled generation rates.

18    **Q.    IS THE AGGREGATION RATE DISCOUNT FUNDAMENTALLY A COST-**  
19    **BASED RATE ADJUSTMENT FOR QUALIFYING CUSTOMERS?**

20    A.   Yes. The aggregation discount recognizes the diversity of the demand placed on the  
21    generation system by the qualifying customers' total load when compared to the  
22    summation of maximum load at each individual site. The aggregation discount  
23    component reduces the generation charges which are currently billed based on the



individual location maximum demands. The rate also appropriately maintains the customer's revenue responsibility for the transmission, distribution, and customer based service to each individual site.

**Q. IN GENERAL, DO THE PROPOSED RATE DESIGNS FOR RATES E-32 L AND E-32 M REFLECT THE RESPECTIVE COST BASIS FOR EACH RATE?**

**A.** No. Table 2 shows a comparison of the portions of cost classified as customer, demand and energy to the total costs with the corresponding components of the E-32 L and E-32 M rates. In order to include subsidy revenue responsibility, demand classified costs have been adjusted to account for the proposed subsidies allocated to these rate classes.

**Table 2: Comparison of Component Costs and Rate Revenue**

COMPONENT	COST OF SERVICE	SUBSIDY RESPONSIBILITY	TOTAL COST	PERCENTAGE OF COST	PROPOSED COMPONENT REVENUE	PERCENTAGE OF RATE REVENUE
<b>E-32 L</b>						
Customer	\$ 2,089,948	\$ -	\$ 2,089,948	0.7%	\$ 1,401,104	0.5%
Demand	\$ 148,197,206	\$ 16,007,411	\$ 164,204,616	54.0%	\$ 134,843,291	44.2%
Energy	\$ 137,996,736	\$ -	\$ 137,996,736	45.4%	\$ 168,730,413	55.3%
<b>Total</b>	<b>\$ 288,283,890</b>	<b>\$ 16,007,411</b>	<b>\$ 304,291,300</b>		<b>\$ 304,974,808</b>	
<b>E-32 M</b>						
Customer	\$ 3,857,256	\$ -	\$ 3,857,256	1.1%	\$ 3,170,748	0.9%
Demand	\$ 172,042,828	\$ 47,208,005	\$ 219,250,833	63.6%	\$ 89,794,904	25.5%
Energy	\$ 121,590,531	\$ -	\$ 121,590,531	35.3%	\$ 258,807,276	73.6%
<b>Total</b>	<b>\$ 297,490,615</b>	<b>\$ 47,208,005</b>	<b>\$ 344,698,620</b>		<b>\$ 351,772,928</b>	

For the E-32 L rate, energy revenue represents a greater portion of the total revenue at 55 percent, than does the energy based costs relative to total cost of service at 45 percent. The demand charges represent a smaller portion of total charges at 44

1           percent, than the demand costs portion of total costs at 54 percent. Likewise  
2           customer-based charges are set below their cost level. *See* Exhibit GWT-RD-4

3           For the E-32 M rate, the energy charges and demand charges reflect similar but  
4           more significant disparities. Energy revenue accounts for 75% of the total, compared  
5           to a cost share which accounts for only 35 percent of total cost. The revenue and cost  
6           portions of total in the demand components are 25 percent and 64 percent of total,  
7           respectively. *See Id.*

8           **Q.   IS IT REASONABLE TO TREAT INTER-CLASS SUBSIDY AMOUNTS AS**  
9           **DEMAND COSTS IN YOUR ASSESSMENT OF APPROPRIATE ENERGY**  
10          **AND DEMAND CHARGE LEVELS?**

11          A.   Yes. These subsidies are intended to collect the return on capital that would  
12               otherwise be collected from other classes. By its nature, revenue subsidization exists  
13               to recover costs associated with the return on fixed assets and should be collected  
14               through billing components consistent with collection of fixed costs.

15          **Q.   INCLUSIVE OF THE UNDERLYING COST TO SERVE AND THE**  
16          **ALLOCATED SUBSIDY PROPOSED BY THE COMPANY, WHAT IS THE**  
17          **MAGNITUDE OF THE DISPARITY BETWEEN RATE COMPONENT**  
18          **CHARGES AND COSTS?**

19          A.   The proposed demand prices would collect less of the revenue than they should and  
20               should be adjusted upward. Conversely, the energy prices exceed the cost-basis and  
21               should be adjusted downward. For E-32 L, to fully match energy revenues with  
22               energy costs and demand revenues with demand costs, energy prices should be  
23               reduced to 82% of the proposed level and demand charges should be increased to

1 122% of the proposed level. For the E-32 M rate, the required adjustments to  
2 proposed energy and demand prices are more significant at 48% and 249%,  
3 respectively. *See Id.*

4 **Q. WHAT IS THE RESULT OF THE PROPOSED DEPARTURE FROM COST**  
5 **IN THE DEMAND AND ENERGY COMPONENTS OF RATE DESIGN?**

6 A. When the prices do not reflect cost at the component level, subsidies are created  
7 between the customers within the class. These *intra-class* subsidies represent an  
8 inequitable apportionment of revenues among customers with different consumption  
9 patterns. If too much revenue is included in the demand charges then low load factor  
10 consumers would bear the burden of subsidies benefitting high load factor consumers.  
11 Similarly, excessive revenue in energy charges relative to the energy-based costs  
12 results in high load factor customers' subsidization of low load factor customers.

13 **Q. IF THE COMMISSION TERMINATES THE AG-1 RATE, WHAT IS YOUR**  
14 **RECOMMENDATION REGARDING THE E-32 L AND E-32 M RATE**  
15 **DESIGNS PROPOSED BY THE COMPANY?**

16 A. If the AG-1 rate is not renewed, the Commission should order the Company to  
17 modify its proposed rate design for E-32 L and E-32 M rates to more closely reflect  
18 the underlying costs by adjusting the energy and demand prices as previously  
19 discussed. This will eliminate the existing intra-class subsidies between high and low  
20 load factor customers in the Company's proposed rates. Additionally, the alignment  
21 of demand and energy charges with the underlying costs will improve the quality of  
22 the price signals and encourage more efficient use of the system, benefitting all  
23 customers.

1 Q. DOES THIS CONCLUDE YOUR DIRECT RATE DESIGN TESTIMONY?

2 A. Yes.

## Revenue Allocation and Relative Rates of Return

CLASS/SUB-CLASS	TOTAL RATE BASE (000's)	PRESENT RATES			INCREASE			PROPOSED RATES		
		REVENUE (000's)	OPERATING INCOME (000's)	RATE OF RETURN	RROR	PROPOSED (000's)	PERCENT	REVENUE (000's)	OPERATING INCOME (000's)	RATE OF RETURN
TOTAL RETAIL	\$ 6,771,151	\$ 3,156,455	\$ 314,303	4.64%		\$ 165,849	5.25%	\$ 3,322,304	\$ 550,495	8.13%
RESIDENTIAL	\$ 4,288,515	\$ 1,655,184	\$ 97,004	2.26%	49%	\$ 118,289	7.15%	\$ 1,773,474	\$ 195,922	4.57%
GENERAL SERVICE	\$ 2,317,692	\$ 1,438,334	\$ 208,326	8.99%	194%	\$ 44,208	3.07%	\$ 1,482,542	\$ 341,682	14.74%
E-221 (Water Pumping)	\$ 63,173	\$ 31,983	\$ 2,102	3.33%	72%	\$ 1,649	5.16%	\$ 33,631	\$ 4,646	7.35%
STREET LIGHTING	\$ 71,613	\$ 22,063	\$ 4,443	6.20%	134%	\$ 1,149	5.21%	\$ 23,212	\$ 5,168	7.22%
DUSK TO DAWN	\$ 30,159	\$ 8,891	\$ 2,428	8.05%	173%	\$ 554	6.23%	\$ 9,445	\$ 3,044	10.09%
TOTAL GENERAL SVC	\$ 2,317,692	\$ 1,438,334	\$ 208,326	8.99%	194%	\$ 44,208	3.07%	\$ 1,482,542	\$ 341,682	14.74%
E-20 (Church Rate)	\$ 18,071	\$ 4,530	\$ (428)	-2.37%	-51%	\$ 368	8.12%	\$ 4,898	\$ (908)	-5.03%
E-32 TOU (0-100 kW)	\$ 5,842	\$ 4,500	\$ 1,045	17.89%	386%	\$ 26	0.57%	\$ 4,526	\$ 1,711	29.29%
E-32 TOU (101-400 kW)	\$ 10,494	\$ 7,257	\$ 1,339	12.76%	275%	\$ 309	4.26%	\$ 7,566	\$ 2,351	22.40%
E-32 TOU (401+ kW)	\$ 32,716	\$ 21,643	\$ 3,475	10.62%	229%	\$ 1,190	5.50%	\$ 22,833	\$ 6,019	18.40%
School TOU	\$ 29,333	\$ 12,404	\$ 1,115	3.80%	82%	\$ 686	5.53%	\$ 13,090	\$ 1,853	6.32%
E-30, E-32 (0-100 kW)	\$ 878,253	\$ 555,372	\$ 113,966	12.98%	280%	\$ 175	0.03%	\$ 555,548	\$ 177,512	20.21%
E-32 (101-400 kW)	\$ 540,042	\$ 332,347	\$ 53,335	9.88%	213%	\$ 12,351	3.72%	\$ 344,699	\$ 91,113	16.87%
E-32 (401+ kW)	\$ 465,288	\$ 287,658	\$ 31,029	6.67%	144%	\$ 16,633	5.78%	\$ 304,291	\$ 53,835	11.57%
E-34	\$ 106,427	\$ 63,027	\$ 2,776	2.61%	56%	\$ 3,302	5.24%	\$ 66,329	\$ 4,852	4.56%
E-35	\$ 231,225	\$ 149,595	\$ 674	0.29%	6%	\$ 9,167	6.13%	\$ 158,763	\$ 3,344	1.45%

Sources

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Proof of Revenue

### Calculation of Subsidy Level by Class and GS Sub-Class

CLASS/SUB-CLASS	REV REQ AT 8.13% (000's)	PROPOSED REVENUE (000's)	PROPOSED SUBSIDY		PROPOSED REVENUE PERCENT OF COST
			LEVEL (000's)		
TOTAL RETAIL	\$ 3,322,337	\$ 3,322,304		(33)	100%
RESIDENTIAL	\$ 1,926,208	\$ 1,773,474		(152,734)	92%
GENERAL SERVICE	\$ 1,329,288	\$ 1,482,542		153,254	112%
E-221 (Water Pumping)	\$ 34,121	\$ 33,631		(490)	99%
STREET LIGHTING	\$ 23,867	\$ 23,212		(655)	97%
DUSK TO DAWN	\$ 8,853	\$ 9,445		592	107%
	\$ -	\$ -			
	\$ -	\$ -			
TOTAL GENERAL SVC	\$ 1,329,288	\$ 1,482,542		153,254	112%
E-20 (Church Rate)	\$ 7,275	\$ 4,898		(2,378)	67%
E-32 TOU (0-100 kW)	\$ 3,290	\$ 4,526		1,236	138%
E-32 TOU (101-400 kW)	\$ 6,068	\$ 7,566		1,498	125%
E-32 TOU (401+ kW)	\$ 19,474	\$ 22,833		3,359	117%
School TOU	\$ 13,622	\$ 13,090		(532)	96%
E-30, E-32 (0-100 kW)	\$ 449,438	\$ 555,548		106,110	124%
E-32 (101-400 kW)	\$ 297,491	\$ 344,699		47,208	116%
E-32 (401+ kW)	\$ 288,284	\$ 304,291		16,007	106%
E-34	\$ 70,130	\$ 66,329		(3,801)	95%
E-35	\$ 174,217	\$ 158,763		(15,455)	91%

Sources

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Proof of Revenue

### Example of Revenue Allocation with a Reduced Revenue Increase

CLASS/SUB-CLASS	COMPANY PROPOSED REVENUE (000's)	75% OF REDUCED		25% OF REDUCED		WALMART PROPOSED REVENUE (000's)
		PROPOSED SUBSIDY LEVEL (000's)	REVENUE TO MITIGATE SUBSIDY (000's)	REVENUE TO MITIGATE IMPACT (000's)		
TOTAL RETAIL	\$ 3,322,304	\$ (33)	\$ (37,500)	\$ (12,500)	\$ 3,272,304	
RESIDENTIAL	\$ 1,773,474	(152,734)	\$	(6,673)	\$ 1,766,801	
GENERAL SERVICE	\$ 1,482,542	\$ 153,254	\$ (37,356)	\$ (5,578)	\$ 1,439,608	
E-221 (Water Pumping)	\$ 33,631	(490)	\$	(127)	\$ 33,505	
STREET LIGHTING	\$ 23,212	(655)	\$	(87)	\$ 23,125	
DUSK TO DAWN	\$ 9,445	592	\$ (144)	(36)	\$ 9,265	
TOTAL GENERAL SVC	\$ 1,482,542	\$ 153,254	\$ (37,356)	\$ (5,578)	\$ 1,439,608	
E-20 (Church Rate)	\$ 4,898	(2,378)	\$	(18)	\$ 4,879	
E-32 TOU (0-100 kW)	\$ 4,526	\$ 1,236	(263)	(17)	\$ 4,246	
E-32 TOU (101-400 kW)	\$ 7,566	\$ 1,498	(319)	(28)	\$ 7,218	
E-32 TOU (401+ kW)	\$ 22,833	\$ 3,359	(715)	(86)	\$ 22,031	
School TOU	\$ 13,090	(532)	\$	(49)	\$ 13,041	
E-30, E-32 (0-100 kW)	\$ 555,548	\$ 106,110	(22,596)	(2,090)	\$ 530,861	
E-32 (101-400 kW)	\$ 344,699	\$ 47,208	(10,053)	(1,297)	\$ 333,349	
E-32 (401+ kW)	\$ 304,291	\$ 16,007	(3,409)	(1,145)	\$ 299,738	
E-34	\$ 66,329	(3,801)	\$	(250)	\$ 66,080	
E-35	\$ 158,763	(15,455)	\$	(597)	\$ 158,165	

## Calculation of the Disparity Between Cost and Revenue in Rate Components

COMPONENT	COST OF SERVICE	SUBSIDY RESPONSIBILITY	TOTAL COST	PERCENTAGE OF COST	PROPOSED COMPONENT REVENUE	PERCENTAGE OF RATE REVENUE	COST-BASED REVENUE	ADJUSTMENT FACTOR
E-32 L								
Customer	\$ 2,089,948	\$ -	\$ 2,089,948	0.7%	\$ 1,401,104	0.5%	\$ 2,094,642.36	149%
Demand	\$ 148,197,206	\$ 16,007,411	\$ 164,204,616	54.0%	\$ 134,843,291	44.2%	\$ 164,573,457.26	122%
Energy	\$ 137,996,736	\$ -	\$ 137,996,736	45.4%	\$ 168,730,413	55.3%	\$ 138,306,708.38	82%
Total	\$ 288,283,890	\$ 16,007,411	\$ 304,291,300		\$ 304,974,808		\$ 304,974,808	

### E-32 M

Customer	\$ 3,857,256	\$ -	\$ 3,857,256	1.1%	\$ 3,170,748	0.9%	\$ 3,936,419.42	124%
Demand	\$ 172,042,828	\$ 47,208,005	\$ 219,250,833	63.6%	\$ 89,794,904	25.5%	\$ 223,750,554.78	249%
Energy	\$ 121,590,531	\$ -	\$ 121,590,531	35.3%	\$ 258,807,276	73.6%	\$ 124,085,953.80	48%
Total	\$ 297,490,615	\$ 47,208,005	\$ 344,698,620		\$ 351,772,928		\$ 351,772,928	

Sources:

CCOSS

Proof of Revenue



**BEFORE THE ARIZONA CORPORATION COMMISSION**

**COMMISSIONERS**

**TOM FORESE, CHAIRMAN  
DOUG LITTLE  
BOB BURNS  
ANDY TOBIN  
BOYD DUNN**

**IN THE MATTER OF THE APPLICATION OF  
ARIZONA PUBLIC SERVICE COMPANY FOR  
A HEARING TO DETERMINE THE FAIR  
VALUE OF THE UTILITY PROPERTY OF THE  
COMPANY FOR RATEMAKING PURPOSES,  
TO FIX A JUST AND REASONABLE RATE OF  
RETURN THEREON, TO APPROVE RATE  
SCHEDULES DESIGNED TO DEVELOP SUCH  
RETURN**

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**DOCKET NO. E-01345A-16-0036**

**DIRECT TESTIMONY (RATE DESIGN) AND EXHIBITS OF**

**CHRIS HENDRIX**

**ON BEHALF OF**

**WAL-MART STORES, INC. AND SAM'S WEST, INC.**

**FEBRUARY 3, 2017**

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**Exhibits**

**Exhibit CWH-1 – Witness Qualifications Statement**

**Introduction**

**Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND OCCUPATION.**

A. My name is Chris Hendrix. My business address is 2001 SE 10th St., Bentonville, AR 72716-0550. I am employed by Wal-Mart Stores, Inc. as Director of Markets and Compliance.

**Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS DOCKET?**

A. I am testifying on behalf of Wal-Mart Stores, Inc. and Sam's West, Inc. (collectively, "Walmart").

**Q. PLEASE DESCRIBE YOUR POSITION WITH WAL-MART?**

A. In my role as Director of Markets & Compliance, I am responsible for directing and implementing regulatory and legislative policies for Walmart's retail and wholesale business interests related to electricity and natural gas in the competitive markets of the United States and the United Kingdom. In addition, I am accountable for all regulatory, legislative and market developments that effect the operation of Walmart's self-supply retail electricity provider; Texas Retail Energy, LLC in Connecticut, Illinois, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, and Texas, and Power4All, Ltd. in the United Kingdom.

**Q. PLEASE DESCRIBE YOUR EDUCATION AND EXPERIENCE.**

A. I earned a Bachelors of Business Administration with a concentration in Accounting from the University of Houston in 1991 and a Masters of Business Administration

1 with a concentration in Finance and International Business from the University of  
2 Houston in 1994. I have more than 25 years of experience in all facets of the energy  
3 industry with the last 20 years specifically related to the competitive electric and  
4 natural gas markets. From 1990 to 1997, I was an Accountant, then an Accounting  
5 Analyst and later a Senior Rate Analyst with Tenneco Energy in Houston, Texas. My  
6 initial duties included various accounting functions for their regulated pipeline,  
7 Tennessee Gas Pipeline, and in my later position, the preparation of cost allocation  
8 and rate design studies. From 1997 to 2001, I was a Senior Specialist and later a  
9 Manager at Enron Energy Services in Houston, Texas. My duties included  
10 participating in gas and electric deregulation proceedings, performing cost of service  
11 analysis, and analyzing regulatory rules and utility tariffs. From 2002 to 2003, I was  
12 a Manager at TXU Energy in Dallas, Texas, where I supervised a pricing team for  
13 energy transactions. In 2003, I joined the Energy Department of Wal-Mart Stores  
14 Inc., as a General Manager and was promoted to my current position in 2009. My  
15 Witness Qualification Statement is found on Exhibit CWH-1.

16 **Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY BEFORE THE**  
17 **ARIZONA CORPORATION COMMISSION ("THE COMMISSION")?**

18 A. Yes. I submitted testimony in Docket Nos. E-01345A-11-0224, E-04204A-15-0142,  
19 and E-01933A-15-0322.

20 **Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY BEFORE OTHER**  
21 **STATE REGULATORY COMMISSIONS?**

22 A. Yes. I have submitted testimony in one proceeding before the Oklahoma Corporation  
23 Commission. My testimony addressed the topic of natural gas competition. In

addition, I have been a contributor to numerous coalition groups and industry organizations in preparing and submitting testimony regarding natural gas and electricity competition and wholesale market rules.

**Q. ARE YOU SPONSORING ANY EXHIBITS WITH YOUR TESTIMONY?**

A. Yes. I am sponsoring the exhibits listed in the Table of Contents.

### Purpose of Testimony

**Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

A. The purpose of my testimony is to address the proposal by Arizona Public Service Company (“APS” or “the Company”) to terminate the Alternative Generation Program (“AG-1”), which was approved by the Commission in the Company’s last rate case. I also propose a Renewable Buy-Through Generation Service option for business customers.

## Summary of Recommendations

**Q. PLEASE SUMMARIZE WALMART'S RECOMMENDATIONS TO THE COMMISSION.**

A. Walmart recommends that the Commission reject APS' recommendation to terminate AG-1. If the Commission finds that changes should be made to AG-1, any changes should be reasonable and reflective only of the costs incurred by APS to provide service to AG-1 customers.

The Commission should approve Walmart's proposed RGS program and direct APS to file tariff sheets implementing the program after a technical workshop. At the

1 minimum the Commission should require APS to work with interested stakeholders  
2 to develop additional energy supply options, with a particular focus on renewables,  
3 based on the Company's underlying cost of service to be presented as a separate tariff  
4 filing.

5  
6 The fact that an issue is not addressed herein or in related filings should not be  
7 construed as an endorsement of any filed position.

8 **AG-1, Alternative Generation Service**

9 **Q. PLEASE BRIEFLY DESCRIBE WALMART'S OPERATIONS WITHIN THE**  
10 **COMPANY'S SERVICE TERRITORY.**

11 A. Walmart has 73 retail units that take electric service from Arizona Public Service  
12 Company ("APS" or "the Company"). Primarily, Walmart stores take service under  
13 the E32L and E32M rates. Walmart is also a participant in the Company's AG-1 Rate  
14 offering, taking service from an alternate supplier at 53 of our 73 retail locations.

15 **Q. WHAT IS YOUR UNDERSTANDING OF WHAT THE COMPANY'S IS**  
16 **PROPOSING RELATED TO AG-1?**

17 A. My understanding is that the Company is proposing to terminate AG-1 because, as  
18 APS witness Snook discusses in his testimony, the Company does not view the  
19 program as sustainable. See Snook Direct, page 43, lines 17 – 18.

20 **Q. WILL YOU BE ADDRESSSSING APS WITNESS SNOOK'S PURPORTED**  
21 **FINANCIAL IMPACTS OF AG-1?**

1 A. My understanding is Arizonans for Electric Choice and Competition (AECC) Witness  
2 Kevin Higgins will address the financial impacts of AG-1.

3 **Q. WHAT IS YOUR UNDERSTANDING OF APS WITNESS SNOOK'S**  
4 **CONCERNS REGARDING LOAD FOLLOWING AND IMBALANCE?**

5 A. My understanding is that Mr. Snook is concerned that the Generation Service  
6 Providers (GSPs) are required to provide generation service for the total load of their  
7 customer, including the hourly deviations as the load ramps up and down over the  
8 day, month, and year but that no GSP has been able to follow the retail load profile of  
9 their customers. Load following is difficult if not impossible to provide by the GSPs  
10 for their customers as the customers load does not match the available traded energy  
11 blocks. Mr. Snook has a similar concern with Energy Imbalance with the ability of  
12 GSPs to balance real-time actual hourly load to hourly scheduled energy.

13 **Q. DO YOU AGREE WITH HIS CONCERNS?**

14 A. No, his concerns can be addressed through APS' participation in the Energy  
15 Imbalance Market ("EIM").

16 **Q. PLEASE EXPLAIN HOW APS PARTICIPATES IN THE EIM.**

17 A. The EIM is a sub-hourly real-time energy market that optimizes the dispatch of  
18 generators within and between balancing authority areas every 15 and 5 minutes. The  
19 dispatch of generation across the entire EIM will be more efficient due to the market  
20 having more resources and load when running the optimization routines.

21 **Q. HOW DOES APS' PARTICIPATION IN THE EIM PROVIDE AN**  
22 **OPPORTUNITY TO IMPROVE THE LOAD FOLLOWING**  
23 **REQUIREMENTS OF AG-1?**

1       A.     Yes. The EIM which was not available at the onset of AG-1 could be used as a more  
2             robust method for pricing mechanism in the AG-1 Settlement processes. To further  
3             clarify, the resulting locational prices from the EIM could be used as the pricing  
4             component for both Load Following and Energy Imbalance for the GSPs.

6                                   **Conclusion**

7       **Q.     GENERALLY, WHAT IS YOUR RECOMMENDATION TO THE**  
8             **COMMISSION ON THE COMPANY'S PROPOSAL TO TERMINATE AG-1?**

9       A.     Walmart recommends that the Commission reject APS' recommendation to terminate  
10            AG-1. If the Commission finds that changes should be made to AG-1, any changes  
11            should be reasonable and reflective only of the costs incurred by APS to provide  
12            service to AG-1 customers.

13  
14                               **Renewable Buy Through Generation Service (RGS)**

15       **Q.     IS THERE A NEED FOR A PROGRAM FOR CUSTOMERS IF THEY**  
16             **DESIRE TO BE ABLE TO PURCHASE LARGE SCALE RENEWABLES?**

17       A.     Yes. Customers can and do have needs for a supply mix different from that offered  
18            by the utility, and a framework should be in place in which the customer can work  
19            with the utility to ensure delivery of that supply mix on a cost-effective basis.

20       **Q.     HAS WALMART ESTABLISHED CORPORATE RENEWABLE ENERGY**  
21             **GOALS?**



1       A.     Yes. Walmart has established aggressive and significant renewable energy goals,  
2             including: (1) to be supplied 100 percent by renewable energy<sup>1</sup> and (2) to drive, by  
3             2020, the annual production or procurement of seven billion kWh of renewable  
4             energy across the globe.<sup>2</sup> In the fall of 2016, Walmart established an additional goal  
5             to use 50% renewable energy across its global locations by 2025. Walmart  
6             recognizes that Arizona has tremendous renewable energy potential, and strongly  
7             encourages the Commission to consider ways for customers like Walmart to take  
8             advantage of that potential.

9       **Q.     IS THERE ADDITIONAL OPPORTUNITY FOR CUSTOMER ACCESS TO**  
10       **RENEWABLE POWER THAT IS NOT ADDRESSED BY THE COMPANY'S**  
11       **CURRENT OFFERINGS?**

12       A.     Yes. Other states with vertically integrated utilities have begun to explore options  
13             that would allow large customers, within the context of cost-based ratemaking, to  
14             contract for renewable energy on a significant scale and have the utility manage the  
15             delivery and reliability of the contracted energy.

16       **Q.     PLEASE PROVIDE AN EXAMPLE.**

17       A.     In Utah, Rocky Mountain Power has Schedule 32 – Service From Renewable Energy  
18             Facilities, a tariff under which a customer contracts for renewable energy with one or  
19             more off-site generators. Rocky Mountain Power then purchases the power from the  
20             generator on behalf of the customer and delivers it to one or more customer sites.  
21             The proposed tariff is unbundled, with separate charges for administrative, delivery,

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<sup>1</sup> <http://corporate.walmart.com/global-responsibility/environmental-sustainability>

<sup>2</sup> <http://www.walmartgreenroom.com/2013/04/walmarts-next-big-step-on-renewable-energy-and-energy-efficiency/>

1 and backup or shaping services, and all supplemental power and energy is priced at  
2 the otherwise applicable tariff rates.<sup>3</sup>

3 **Q. HAVE OTHER STATES APPROVED STRUCTURES IN WHICH THE**  
4 **UTILITY OWNS OR PROCURES LARGE SCALE RESOURCES WHICH**  
5 **ARE USED TO SERVE SPECIFIC CUSTOMERS?**

6 A. Yes. An example is the approval by the Alabama Public Service Commission of  
7 Alabama Power's proposal to construct or otherwise acquire renewable generation  
8 resources which are then paid for through agreements with specific customers, with  
9 no costs shifted to non-participating ratepayers. See Order, Alabama Public Service  
10 Commission Docket No. 32382, September 16, 2015. Additionally, Westar Energy in  
11 Kansas has recently implemented a Wind Generation Service tariff under which  
12 customers can be served by the utility's wind fleet.

13 **Q. PLEASE DESCRIBE THE GENERAL FRAMEWORK OF WALMART'S**  
14 **PROPOSED RENEWABLE GENERATION SERVICE ("RGS") PROGRAM.**

15 A. Generally, participating RGS customers would select their preferred renewable  
16 generation service provider to sell power to the Company on the ratepayer's behalf.  
17 The Company would then take title to the power and provide it to the ratepayer. The  
18 participant would be responsible for all charges and adjustments in their retail rate  
19 schedule, except for the \$/kWh Base Power Supply Charges and the Purchased Power  
20 and Fuel Adjustment Charge ("PPFAC") for all kWh of electricity supplied by the  
21 renewable generation. The participating customer would still pay the \$/kW Base

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<sup>3</sup> Walmart does not specifically endorse the rate structure within the tariff or the charges contained therein. The structure of the daily demand charges is a concern for many customers who are interested in taking service under the tariff.

1 Power Supply Charge in order to compensate the Company for generation capacity  
2 service and the \$/kWh Base Power Supply Charges and PPFAC for any non-  
3 renewable electricity delivered to the customer.

4 **Q. WHO COULD PARTICIPATE?**

5 A. The RGS program would be available to all commercial and industrial Customers  
6 with a peak demand of 1,000 kW or greater. A Customer would be allowed to  
7 aggregate utility accounts within its corporate family to meet the peak demand  
8 threshold. This will allow participating customers to leverage economies of scale to  
9 reduce their renewable generation supply costs.

10 **Q. WOULD THERE BE A CAP ON PARTICIPATION?**

11 A. No. Any customer that meets the participation threshold would be allowed to  
12 participate. Total number of customers electing to participate in the RGS program  
13 will be relatively small due to the participation threshold, the term length of  
14 renewable contracts and credit required by the Customer.

15 **Q. WOULD THERE BE A TERM LIMIT ON THE RGS PROGRAM?**

16 A. No. By their very nature, renewable projects require a sufficient contract term for the  
17 renewable developer to finance the project.

18 **Q. SHOULD THE COMPANY RECEIVE AN ADMINISTRATIVE FEE FOR**  
19 **PROVIDING THE RGS PROGRAM?**

20 A. Yes. The Company should be allowed an Administrative Fee to recover the actual  
21 just and reasonable costs of providing the RGS services of its costs of invoicing,  
22 scheduling, and managing the RGS Program but those costs should be provided for  
23 review by the Commission and parties.

1       **Q.     DOES THE EXISTENCE OF RGS HARM OTHER NON-RGS CUSTOMERS?**

2       A.     No. The purchase of renewables would be at the RGS Customer's own choosing and  
3             cost and would not harm any other APS customers. In addition, the RGS program  
4             would partially replace the need for APS to purchase renewables. This would have  
5             the added benefit of increasing the renewable fuel mix for all of Arizona with no risk  
6             to any other non-RGS ratepayers.

7       **Q.     SHOULD YOUR PROPOSED RENEWABLE BUY THROUGH**  
8             **GENERATION SERVICE REPLACE THE COMPANY'S AG-1 SERVICE?**

9       A.     No. The proposed RGS program would be a separate program from AG-1.

10      **Q.     WHAT IS YOUR RECOMMENDATION TO THE COMMISSION ON THIS**  
11             **ISSUE?**

12      A.     The Commission should approve Walmart's proposed RGS program and direct APS  
13             to file tariff sheets implementing the program after a technical workshop. At the  
14             minimum the Commission should require APS to work with interested stakeholders  
15             to develop additional energy supply options, with a particular focus on renewables,  
16             based on the Company's underlying cost of service to be presented as a separate tariff  
17             filing.

18      **Q.     DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

19      A.     Yes.

# Chris W. Hendrix

Director of Markets & Compliance

Wal-Mart Stores, Inc.

Business Address: 2001 SE 10<sup>th</sup> Street, Bentonville, AR, 72716-5530

Business Phone: (479) 204-0845

Email: chris.hendrix@wal-mart.com

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## EXPERIENCE

2003 – Present

**Wal-Mart Stores, Inc.**, Bentonville, AR

**Director of Markets & Compliance** (2009 – Present)

**General Manager** (2003 – 2009)

2002 –2003

**TXU Energy**, Dallas, TX

**Manager – Retail Pricing** (2002 –2003)

1997 - 2001

**Enron Energy Services**, Houston, TX

**Manager – Target Markets** (2002 –2003)

**Manager – Product Development/Structuring** (1999 – 2001)

**Senior Specialist** (1997 – 1999)

1990 - 1997

**Tenneco Energy**, Houston, TX

**Senior Rate Analyst** (1994 – 1997)

**Accounting Analyst** (1992 – 1994)

**Accountant** (1991 – 1992)

## EDUCATION

1994

**University of Houston**

M.B.A, Finance & International Business

1991

**University of Houston**

B.B.A, Accounting (Magna Cum Laude)

## INDUSTRY ORGANIZATIONS

**Arizona Independent Scheduling Administrator Association (AzISA)**

Board Member (2014 – present)

**Arizonans for Electric Choice & Competition (AECC)**

Chairman (2013 – present)

**COMPETE Coalition**

Board Member (2008 – 2013)

**Electric Reliability Council of Texas (ERCOT)**

Technical Advisory Committee - TAC (2004 – 2006)

**National Energy Marketers Association**

Chairman (2015 – present)

Executive Committee and Policy Chair (2006 – present)

**NEPOOL (ISO New England)**

Participants Committee (2011 – present)  
Markets Committee (2011 – present)  
Consumer Liaison Group (2011 – present)

**PJM Interconnection**

Market Reliability Committee (2011 – present)  
Members Committee (2011 – present)

**TESTIMONY**

1998

Oklahoma Corporation Commission Cause No. PUD 980000177: Joint Application of Oklahoma Natural Gas Company, A Division of Oneok, Inc., Oneok Gas Transportation, a Division of Oneok, Inc., and Kansas Gas Service Company, a Division of Oneok, Inc., for Approval of Their Unbundling Plan for Natural Gas Services Upstream of the Citygates or Aggregation Points.

2012

Arizona Docket No. E-01345A-11-0224: In the Matter of the Application of Arizona Public Service Company for a Hearing to Determine the Fair Value of the Utility Property of the Company for Ratemaking Purposes, to Fix a Just and Reasonable Rate of Return Thereon, and to Approve Rate Schedules Designed to Develop Such Return.

2015

Arizona Docket No. E-04204A-15-0142: In the Matter of the Application of UNS Electric, Inc. for the Establishment of Just and Reasonable Rates and Charges Designed to Realize a Reasonable Rate of Return on the Fair Value of the Properties of UNS Electric, Inc. Devoted to its Operations Throughout the State of Arizona, and for Related Approvals.

2016

Arizona Docket No. E-01933A-15-0322: In The Matter of the Application of Tucson Electric Power Company for the Establishment of Just and Reasonable Rates and Charges Designed To Realize a Reasonable Rate of Return On the Fair Value of the Properties of Tucson Electric Power Company Devoted to Its Operations Throughout the State of Arizona, and for Related Approvals.